CONTENTS OF SOME PREVIOUS ISSUES

VOLUME 19

Number 6

Selected Papers from Polymer Science and Technology for the 21st Century
A symposium held in New York, November 1992, to commemorate Otto Vogl's 65th birthday
Guest Editor: Bengt Rånby

Editorial
G. D. Jaycox v

Editorial
B. Rånby vii

Toast
A. MacLachlan xi

A Message to Otto Vogl on the Occasion of his 65th Birthday from the Polymer Division of the Royal Australian Chemical Institute
G. George xiii

Greetings to Otto Vogl
Z. Jedlinski xv

Polymer Research and Development in the 1990s—The Challenge of High Added Value Materials
J. G. Wirth 947

The Breakthrough in Catalysis and Processes for Olefin Polymerization: Innovative Structures and a Strategy in the Materials Area for the Twenty-first Century
P. Galli 959

Technology Management and Globalization in the New Materials Age: Academia and Industry Collaboration in Polymer Research
N. Yoda 975

Future Aspects of Engineering Thermoplastics—From an Industrial Point of View
D. Freitag 995

New Results and Prospects in Radical Polymerization: Modification and Reactive Blending
M. Rätzsch 1011

Torsional Chiral Structures—Keystones in Stereochemical Research
K. Schlögl 1031

Science Policy of a Small Country in the European Context
K. L. Komarek 1045

Polymer Science and Technology: An Industrial Perspective
A. MacLachlan 1049

The Rigid Single Polymer Helix
O. Vogl 1055

Synthetic Uniform Polymers and their Use in Polymer Science
K. Hatada, K. Ute and N. Miyatake 1067
Cholesteric Lyotropic Liquid Crystals and Thermally Reversible Gels from Polyisocyanates
M. M. Green, A. Teramoto and T. Sato 1083
Radical Polymerization, Co-polymerization, and Chain Transfer of α-Substituted Acrylic Esters
B. Yamada and S. Kobatake 1089
Appendix—Dr Otto Vogl: List of Publications 1133

Number 5

Diglycidyl Amine–Epoxy Resin Networks: Kinetics and Mechanisms of Cure
N. A. St. John and G. A. George 755
Hydrothermal Degradation of Polymers Derived from Plants
O. Bobleter 797
Rotaxanes, Catenanes, Polyrotaxanes, Polycatenanes and Related Materials
H. W. Gibson, M. C. Bheda and P. T. Engen 843

Number 4

The Synthesis of Polymers by Template Polymerization
Y. Yong Tan 561
Condensation Polymers Based on Chloral and its Derivatives
A. L. Rusanov 589
Biodegradable Polymers for Biomedical Uses
T. Hayashi 663
Emulsion Polymerization
Q. Wang, S. Fu and T. Yu 703

Number 3

Polymer Thin Films Prepared by Vapor Deposition
A. Kubono and N. Okui 389
Low Temperature Curing Epoxies for Structural Repair
H. Dodiuk and S. Kenig 439
Living and Immortal Polymerizations
T. Aida 469
Polyethylene Surface Chemistry
D. E. Bergbreiter 529

Number 2

Editorial v
Molecular Design and Functionality of Branched Polymers
Y. Kawakami 203

Crown Ether-Containing Polymers
U. Tunca and Y. Yagci 233
Structure and Mechanism in Anionic Polymerization
S. Bywater 287
Laser Raman Spectroscopy of Polymeric Materials
G. Xue 317

Number 1

Thermodynamics of Polymer Solutions and Mixtures
Y. Einaga 1
Characterization of Cellulose and Cellulose Derivatives in Solution by High Resolution ^{13}C-NMR Spectroscopy
I. Nehls, W. Wagenknecht, B. Philipp and D. Stscherbina 29
Poly(γ-Alkyl-α, L-Glutamate)s Derived from Long Chain Paraffinic Alcohols
W. H. Daly, D. Poché and I. I. Negulescu 79
Recent Developments in Thermally Curable and Photocurable Systems
R. Chandra and R. K. Soni 137
Computer Programs for Mechanical Analysis and Design of Polymer Matrix Composites
O. Saarela 171

VOLUME 18

Number 6

The Role of Aqueous-Phase Kinetics in Emulsion Polymerizations
B. S. Casey, B. R. Morrison and R. G. Gilbert 1041
Characteristics of Rare Earth Systems as Polymerization Initiators
H. Yasuda and H. Tamai 1097
Metathesis Polymerization
D. S. Breslow 1141

Number 5

Recent Advances in the Development of Expanding Monomers: Synthesis, Polymerization and Volume Change
T. Takata and T. Endo 839
Cyclic Oligomers as Highly Selective Catalysts
M. Komiyama 871
Liquid Crystalline and Rigid-Rod Networks
G. G. Barclay and C. K. Ober 899
Water Transport in Epoxy Resins
M. C. Lee and N. A. Peppas 947

Addition Reactions of Cyclic Ethers with Various Carbonyl Compounds and their Application for Polymer Synthesis
T. Nishikubo and A. Kameyama 963
N–N Bonded Polymers
S. R. Jain, K. Sridhara and P. M. Thangamathesvaran 977

Number 4

Biosensors Prepared from Electrochemically-Synthesized Conducting Polymers
M. V. Deshpande and D. P. Amalnerkar 623
Molecular Dynamics in Biopolymers as Studied by Magnetic Resonance
A. Tsutsumi 651
Artificial Polysaccharides and their Biological Activities
T. Uryu 717
Highly Stable Lipid Membranes from Archaebacterial Extremophiles
K. Yamauchi and M. Kinoshita 763
Modification of Biopolymer Functions by High Pressure
S. Kunugi 805

Number 3

Molecular Theory of Mechanical Properties of Crystalline Polymers
K. Tashiro 377
Molecular Kinetics of Yield Deformation and Ductile Fracture in Polymer Glasses
Y. Nanzai 437
Polymer Colloidal Crystals
T. Okubo 481
Water-soluble Poly (*N*-Vinylamides): Micro-structure, Solvation, Conformational State and Complex Formation in Aqueous Solutions
Yu. E. Kirsh 519
Semiflexible Polymers in Dilute Solution
T. Norisuye 543
Dielectric Normal Mode Relaxation
K. Adachi and T. Kotaka 585

Number 2

Stimuli-Responsive Polymer Gels and their Application to Chemomechanical Systems
Y. Osada and J. Gong 187
Phosphorus-Containing Polymers
S. Maiti, S. Banerjee and S. K. Palit 227

Special Section on Polymer Films
Recent Studies on Functional Ultrathin Polymer Films Prepared by the Langmuir–Blodgett Technique
T. Miyashita 263
Preparation of Ultrathin Polymer Films Based on Two Dimensional Molecular Ordering
M. Shimomura 295
Thermodynamic, Structural and Rheological Properties of Polymer Films at the Air–Water Interface
M. Kawaguchi 341

Number 1

Editorial v
Modern Polyacetals
J. Masamoto 1
Benzocyclobutenes in Polymer Synthesis
R. A. Kirchhoff and K. J. Bruza 85

VOLUME 17

Number 6

Photoinitiators for Free Radical Polymerization
H. F. Gruber 953
ESR Studies on Molecular Motion and Chemical Reactions in Solid Polymers in Relation to Structure
S. Shimada 1045
Recent Developments in Radical Stabilization in Polymers and in Polymerization
H. Tanaka 1107
Electrically Conducting and Thermally Stable π-Conjugated Poly(arylene)s Prepared by Organometallic Processes
T. Yamamoto 1153

Number 5

Special Issue on Polymerization Kinetics and Thermodynamics

Kinetics and Mechanism of Radical Graft Polymerization of Monomers onto Polysaccharides
Ad. A. Berlin and V. N. Kislenko 765
New Dual Parameters for Radical Reactivities of Vinyl Monomers
O. Ito and M. Matsuda 827

Kinetics of Free Radical Copolymerization
T. Fukuda, K. Kubo and Y.-D. Ma 875
Thermodynamics of Copolymerization
R. Szymanski 917

Number 4

Special Issue on Biopolymers and Biologically Related Polymers

Synthetic Nucleic Acid Analogs
Y. Inaki 515
Structure and Physical Properties of Bacterially Synthesized Polyesters
Y. Inoue and N. Yoshie 571
Synthetic Polymer–Lignin Copolymers and Blends
J. Wang, R. St. John Manley and D. Feldman 611
Functional Immobilized Biocatalysts
E. Kokufuta 647
Molecular to Supramolecular Design of Synthetic Polypeptides
M. Sisido 699

Number 3

Anionic Living Polymerization of Monomers with Functional Silyl Groups
A. Hirao and S. Nakahama 283
Resists for Microlithography: Present Status and Recent Research Trends
K. Sugita and N. Ueno 319
Modification of Polymers under Heterogeneous Conditions
J. Jagur-Grodzinski 361
Functionalization of Carbon Black by Surface Grafting of Polymers
N. Tsubokawa 417
Telechelic Polymers
Y. Tezuka 471

Number 2

Poly (*N*-Isopropylacrylamide): Experiment, Theory and Application
H. G. Schild 163
Surface Grafting onto Polypropylene—A Survey of Recent Developments
R. P. Singh 251

Number 1

Capture of Micro-Organisms and Viruses by Pyridinium-Type Polymers and Application to Biotechnology and Water Purification
N. Kawabata 1

Synthesis and Properties of Polyamides having a Cyclobutanedicarboxylic Acid Derivative as a Component
K. Saigo 35
Preparation and Application of New Monosized Polymer Particles
J. Ugelstad, A. Berge, T. Ellingsen, R. Schmid, T.-N. Nilsen, P. C. Mørk, P. Stenstad, E. Hornes and Ø. Olsvik 87

VOLUME 16

Number 6

Macromolecular Donor–Acceptor Complexes
C. I. Simionescu and M. Grigoras 907
Miscibility and Morphology in Block Copolymer/Homopolymer Blends
M. Jiang and H. Xie 977
Ring-Opening Polymerization of Heterobicyclic Compounds. Syntheses of Specialty Polymers
M. Okada 1027

Number 5

Polyurethane Elastomers
Z. S. Petrović and J. Ferguson 695
Telechelic Polymers: Synthesis, Characterization and Applications
R. Jerome, M. Henrioulle-Granville, B. Boutevin and J. J. Robin 837

Number 4

On the Reactivity of Sulfur Dioxide in Chain Polymerization Reactions
Z. Florjańczyk 509
Polyimides
C. E. Sroog 561

Number 2/3

Special Issue in Memory of Piero Pino

Ketenes and Bisketenes as Polymer Intermediates
P. Zarras and O. Vogl 173
Stereospecific Polymerization of α-Olefins: End Groups, Polymer Structure and Reaction Mechanism
A. Zambelli and P. Ammendola 203
Hemitactic Polymers
M. Farina, G. Di Silvestro and P. Sozzani 219

Models for the Stereospecificity in Homogeneous and Heterogeneous Ziegler-Natta Polymerizations
P. Corradini and G. Guerra 239
Chiral Discrimination in the Polymerization of α-Olefins by Ziegler–Natta Initiator Systems
F. Ciardelli, A. Altomare and C. Carlini 259
Radical Copolymerization of Donor/Acceptor Monomers
M. Rätzsch and O. Vogl 279
An Outlook on Progress in Polypropylene-Based Polymer Technology
T. Simonazzi, G. Cecchin and S. Mazzullo 303
Stereochemical Investigation of the Effect of Lewis Bases in Heterogeneous Ziegler–Natta Initiator Systems
M. C. Sacchi, I. Tritto and P. Locatelli 331
Polymorphism in Isotactic Polypropylene
S. Brückner, S. V. Meille, V. Petraccone and B. Pirozzi 361
Recent Views on the Mechanism of the Diolefin Polymerization with Transition Metal Initiator Systems
L. Porri, A. Giarrusso and G. Ricci 405
Continuing Initiator System Developments Provide a New Horizon for Polyolefin Quality and Properties
P. Galli and J. C. Haylock 443
The Conformation of Linear and Star Polymers in Solution
G. Allegra and F. Ganazzoli 463

Number 1

Editorial iii
Rheology of Polymer Solutions of the Network Type
J. Schurz 1
Liquid Crystal Polymers
C. Noël and P. Navard 55
Modern Cationic Vinyl Polymerization
M. Sawamoto 111

VOLUME 15

Number 6

Recent Developments in ^{13}C Solid State High-Resolution NMR of Polymers
T. Yu and M. Guo 825
Epitaxial Crystallization of Polymers on Organic and Polymeric Substrates
J. C. Wittmann and B. Lotz 909
Photophysics in Amphiphilic Polyelectrolyte Systems
Y. Morishima 949

Number 5

Organic Polymer Surfaces for Use in Medicine: Their Formation, Modification, Characterisation and Application
Julian H. Braybrook and Laurance D. Hall 715
Advances in Photodegradation and Stabilization of Polyurethanes
B. P. Thapliyal and R. Chandra 735
Ethylenimine Polymers
S. Kobayashi 751

Number 4

Light-Induced Synthesis of Block and Graft Copolymers
Yusuf Yagci and Wolfram Schnabel 551
Some Considerations on Thermosetting Polymers as Matrices for Composites
Dorel Feldman 603
Crystallization Processes in Quiescent and Moving Polymer Melts Under Heat Transfer Conditions
G. Eder, H. Janeschitz-Kriegl and S. Liedauer 629

Number 3

Investigation of Local Dynamics of Polymer Chains in the Bulk by the Excimer Fluorescence Technique
L. Bokobza 337
Luminescent Probe Studies of the Microstructure and Mobility of Solid Polymers
H. Itagaki, K. Horie and I. Mita 361
Applications of High-Resolution Solid-State Carbon-13 NMR to Polymers
F. Laupretre 425
Synthesis, Characterization and Reactivity of Polymeric Peroxides
T. Mukundan and K. Kishore 475
Water-Soluble Copolymers XXXII: Macromolecular Drag Reduction. A Review of Predictive Theories and the Effects of Polymer Structure
S. E. Morgan and C. L. McCormick 507

Number 2

The Influence of Biotic and Abiotic Environments on the Degradation of Polyethylene
A.-C. Alertsson and S. Karlsson 177
Selective Catalytic Degradation of Polyolefins
S. R. Ivanova, E. F. Gumerova, K. S. Minsker, G. E. Zaikov and A. A. Berlin 193

Thermal Oxidation of Polyethylene and Polypropylene; Effects of Chemical Structure and Reaction Conditions on the Oxidation Process
M. Iring and F. Tüdős 217
Asymmetric Polymerization of Methacrylates
Y. Okamoto and E. Yashima 263
Protection and Polymerization of Functional Monomers: Anionic Living Polymerization of Protected Monomers
S. Nakahama and A. Hirao 299

Number 1

Supermolecular Structure of Oriented Semicrystalline Polymers
D. Geiss and D. Hofmann 1
Water-Soluble Polymers in Enhanced Oil Recovery
S. E. Morgan and C. L. McCormick 103
Factors Affecting Kinetics in Slurry Type Coordination Polymerization
J. V. Seppälä and M. Auer 147

VOLUME 14

Number 6

Free-Radical Polymerization: Inhibition and Retardation
F. Tüdős and T. Földes-Berezsnich 717
The Potential for High Performance Fiber from Nylon 6
J. G. Lim, B. S. Gupta and W. George 763
Functionally Substituted Poly(α-Olefins)
A. R. Padwa 811

Number 5

Polymer Hollow Fiber Membranes for Removal of Toxic Substances from Blood
D. Paul 597
Synthetic Polymers in Modern Pharmacy
W. J. Passl 629
Surgical Applications of Biodegradable Polymers in Human Tissues
S. Vainionpää, P. Rokkanen and P. Törmälä 679

Number 4

Mechanochemistry of Polymers
J. Sohma 451

Number 3

Rosin: A Renewable Resource for Polymers and Polymer Chemicals
S. Maiti, S. Sinha Ray and A. K. Kundu 297
Structure and Biosynthesis Mechanism of Natural Polyisoprene
Y. Tanaka 339
Highly Crosslinked Polymers
T. Kaiser 373

Number 2

Editorial Board
Novel Synthetic Methods for Condensation Polymers using Silylated Nucleophilic Monomers
Y. Imai and Y. Oishi 173
Selective Polymerization from Olefin Mixtures
G. Heublein and D. Stadermann 195
Chemistry of Fluorocarbon Elastomers
A. L. Logothetis 251

Number 1

Editorial iii
Continuous Thermodynamics of Polymer Systems
M. T. Rätzsch and H. Kehlen 1
Amorphous Rigid-Rod Polymers
R. A. Gaudiana, R. A. Minns, R. Sinta, N. Weeks and H. G. Rogers 47
Polyelectrolyte Complexes—Recent Developments and Open Problems
B. Philipp, H. Dautzenberg, K.-J. Linow, J. Kötz and W. Dawydoff 91

VOLUME 13

Number 4

Alternating Maleic Anhydride Copolymers
M. Rätzsch 277
Polymeric Membrane Materials for Solution-Diffusion Based Permeation Separations
W. J. Koros, G. K. Fleming, S. M. Jordan, T. H. Kim and H. H. Hoehn 339

Number 3

Stereoregular Polymerization of α-Substituted Acrylates
K. Hatada, T. Kitayama and K. Ute 189

Number 2

Applications of Polymers in Solar Energy Utilization
J. F. Rabek 83

Number 1

Publisher's Note i
Editorial Biographies iii
Editorial v
Water Structure in Polymer Membranes
P. M. Wiggins 1
Poly-l-Butene: Its Preparation, Properties and Challenges
L. Luciani, J. Seppälä and B. Löfgren 37
Coordination Ring-Opening Polymerization
Shohei Inoue 63